

TUNED TRANSFORMER BALUN CIRCUIT AND APPLICATIONS THEREOF

ABSTRACT OF THE DISCLOSURE

A tuned transformer balun circuit includes a transformer balun, a first tuning
5 capacitor, a second tuning capacitor, and a third tuning capacitor. A first plate of the first
tuning capacitor is operably coupled to a first node of the differential winding and a
second plate of the first tuning capacitor is operably coupled to a circuit ground. A first
plate of the tuning capacitor is operably coupled to a second node of the differential
winding and a second plate of the second tuning capacitor is operably coupled to the
10 circuit ground. A first plate of the third tuning capacitor is operably coupled to a first
node of the single-end winding and the second plate of the third tuning capacitor is
operably coupled to transceiver radio frequency signals, wherein, based on loading of the
single-ended winding and the differential winding, the first, second, and third tuning
capacitors resonate with the transformer balun to provide efficient energy transfer from
15 the transmitter section to the antenna.